



My NCBI!
[Sign In] [Regis]

PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Books

Search for

Display Show Send to Hide: ☐ sequence ☐ all but gene, CDS and mRNA

Range: from to ☐ Reverse complemented strand Features: ☐ SNP

☐ 1: [L12392](#). Reports [Homo sapiens Hunt...](#)[gi:1709991]

[Links](#)

[Comment](#) [Features](#) [Sequence](#)

LOCUS HUMHDA 10348 bp mRNA linear PRI 13-MAY-2002
DEFINITION [Homo sapiens Huntington's Disease \(HD\) mRNA, complete cds.](#)
ACCESSION [L12392](#)
VERSION [L12392.1](#) [GI:1709991](#)
KEYWORDS trinucleotide repeat.
SOURCE [Homo sapiens \(human\)](#)
ORGANISM [Homo sapiens](#)
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini;
Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 10348)
AUTHORS [MacDonald,M.](#) and [Ambrose,C.M.](#)
TITLE [A novel gene containing a trinucleotide repeat that is expanded and unstable on Huntington's disease chromosomes. The Huntington's Disease Collaborative Research Group \[see comments\]](#)
JOURNAL [Cell](#) 72 (6), 971-983 (1993)
PUBMED [8458085](#)
COMMENT On Dec 9, 1996 this sequence version replaced [gi:454414](#).
FEATURES
source 1..10348
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/note="derived from DNA and mRNA sequence"
gene 1..10348
/gene="HD"
CDS 316..9750
/gene="HD"
/codon_start=1
/product="Huntington's Disease protein"
/protein_id="[AAE38240.1](#)"
/db_xref="GI:454415"
/db_xref="GDB:G00-119-307"
/translation="MATLEKLMKAFESLKSFQQQQQQQQQQQQQQQQQQQQQQPPPP
PPPPPPQLPQPPPAQPLLPQPPPPPPPPPPGPAVAEEPLHRPKKELSATKKDRV
NHCLTICENIVAQSVRNSPEFQKLLGIAMELFLLCSDDAESDVRMVADECLNKVIKAL
MDSNLPRLQLELYKEIKKNGAPRSLRAALWRFALHLVRPQKCRPYLVNLLPCLTRT
SKRPEESVQETLAAAVPKIMASFGNFANDNEIKVLLKAFIANLKSSSPTIRRTAAGSA
VSICQHSRRTQFYFSWLLNVLLGLLVPVEDEHSTLLILGVLLTLRYLVPLLQQQVKDT
SLKGSFGVTRKEMEVSPPSAEQLVQVYELTLHHTQHGDHNVVTGALELLQQLFRTPPPE
LLQTLTAVGGIGQLTAAKEESGGRSRSGSIVELIAGGGSSCSPVLSRKQKGVLLGEE
EALEDDSESRSDVSSSALTASVKDEISGELAASSGVSTPGSAGHDIITEQPRSQHTLQ
ADSVDLASCDLTSSATDGDEEDILSHSSQVSAVPSDPAMDLDNGTQASSPISDSSQT
TTEGPDSAVTPSDSSEIVLDGTDNQYLGLQIGQPQDEDEEATGILPDEASEAFRNSSM
ALQQAHLKKNMSHCRQPSDSSVDKFLVRDEATEPGDQENKPCRIKGDIGQSTDDDSAP

LVHCVRLLSASFLLTGKKNVLPDRDVRVSVKALALSCVGAVALHPESFFSKLYKVP
 LDTTEYPPEEQYVSDILNYIDHGDQPVRGATAILCGTLICISILSRSRFHVGDWMTGIRT
 LTGNTFSLADCIPLLRKTLKDESSVTCKLACTAVRNCVMSLCSSSYSELGLQLIIDVL
 TLRNSSYWLVRTELLETAEIDFRLVSFLEAKAENLHRGAHHTGLLKLQERVLNNVV
 IHLLGDEDPRVRHVAAASLIRLVPKLFYKCDQGGADPVVAVARDQSSVYLKLLMHETQ
 PPSHFSVSTITRIYRGYNLLPSITDVTMENNLSRVIAAVSHELITSTTRALTFCCEA
 LCLLSTAFPVCIWSLGHWCVPPLSASDESRSCTVGMATMILTLLSSAWFPLDLSAH
 QDALILAGNLLAASAPKSLRSSWASEEEANPAATKQEEVWPALGDRALVPMVEQLFSH
 LLKVINICAHVLDDVAPGPAIKAALPSLTNPPSLSPIRRKGKEKEPGEQASVPLSPKK
 GSEASAASRQSDTSGPVTTSSKSSSLGSFYHLPSYKLHDLVLAHANYKVTLDLQNST
 EKFGGFLRSALDVLSQLILELATLQDIGKCVVEILGYLKSCFSREPMMATVCVQQLKT
 LFGTNLASQFDGLSSNPSKSSQGRAQLGSSSVRPGLYHYCFMAPYTHFTQALADASLR
 NMVQAEQENDTSGWFDVLQKVSTQLKTNLTSTVTKNRADKNAIHNHIRLFEPLVIKALK
 QYTTTTTCVQLQKQVLDLLAQLVQLRVNYCLLDSQVFIGFVLKQFEYIEVGQFRESEA
 IIPNIFFFLVLLSYERYHSKQIIIGIPKIIQLCDGIMASGRKAVTHAIPALQPIVHDLF
 VLRGTNKADAGKELETQKEVVVSMMLRLIQYHQVLEMFIILVLQQCHKENEDKWKRLSR
 QIADIILPMLAKQMHIDSHEALGVLNLTLEILAPSSLRPVDMLLRSMFVTPNTMASV
 STVQLWISGILAILRVLISQSTEDIVLSRIQELSFSPYLISCTVINRLRDGDSTSTLE
 EHSEKQIKNLPEETFSRFLLQLVGILLEDIVTKQLKVMEMSEQQHTFYCQELGTLMLC
 LIHIFKSGMFRRITAAATRLFRSDGCGSFYTLDSLNLRARSMITHPALVRELLWCQIL
 LLVNHTDYRWAAEVQQTPKRHSLSSTKLLSPQMSGEEEDSDLAAKLGMCNREIVRGA
 LILFCDYVCQNLHDEHLTWLIVNHIQDLISLSHEPPVQDFISAVHRNSAASGLFIQA
 IQSRCENLSTPTMLKKTLLQCLEGIHLSQSGAVLTLYVDRLLCTPFRVLARMVDILACR
 RVEMLLAANLQSSMAQLPMEELNRIQEYLQSSGLAQRHQRLYSLLDRLSTMQDSLS
 PSPPVSSHPLDGDGHVSLETVSPDKDWYVHLVKSQCWTRSDSALLEGAEVLNRIPAED
 MNAFMMNSEFNLSLLAPCLSLGMSEISGGQKSALFEAAREVTLARVSGTVQQLPAVHH
 VFQPELPAEPAAYWSKLNLDLFGDAALYQSLPTLARALAQYLVVSKLPShLHPPEKE
 KDIVKFVVATLEALSWHLIHEQIPLSLDLQAGLDCCCLALQLPGLWSVVSSTEFVTHA
 CSLIYCVHFILAVAVQPGEQLLSPERRINTPKAISEEEEEVDPNTQNPKYITAACEM
 VAEMVESLQSVLALGHKRNSGVPAFLTPLLNNIIISLARLPLVNSYTRVPPLVWKLGW
 SPKPGGDFGTAFPEIPVEFLQEKEVFKEFIYRINTLGWTSRTQFEETWATLLGLVLTQ
 PLVMEQEEESPPEEDTERTQINVLAQAITSVLVSAMTVPVAGNPAVSCLEQQPRNKPL
 KALDTRFGRKLSIIRGIVEQEIQAMVSKRENIATHHLYQAWDPVPSLSPATTGALISH
 EKLLLQINPERELGMSYKLGQVSIHVSUWLGNSITPLREEEWDEEEEEADAPAPSSP
 PTSPVNSRKHHRAGVDIHSCSQFLELYSRWILPSSSARRTPAILISEVVRSLLVSDL
 FTERNQFELMYVTLELRRVHPSEDEILAQYLVLPATCKAAAVLGMDKAVAEPVSRLL
 STLRS SHLPSRVGALHGVLYVLECDLLDDTAKQLIPVISDYLLSNLKGIAHCVNHSQ
 QHVLVMCATAFYLIENYPLDVGPEFSASIIQMCGVMLSGSEESTPSIIYHCLRGLER
 LLLSEQLSRLDAESLVKLSVDRVNVHSPHRAMAALGLMLTCMYTGKEKVSFGRTSDPN
 PAAPDSESVIVAMERSVLFDRIRKGFPCEARVVARILPQFLDDFFPPQDIMNKVIGE
 FLSNQPPYPQFMATVVYKVFQTLHSTGQSSMVRDWVMSLSNFTQRAPVAMATWSLSC
 FFVSASTSPWVAAILPHVISMKGLEQVDVNLFCLVATDFYRHQIEEELDRAFAQSVL
 EVVAAPGSPYHRLLTCLRNHVHKTTC"

polyA_site

10348

/gene="HD"

ORIGIN

```

1  ttgctgtgtg aggcagaacc tgcgggggca ggggcgggct ggttcctctg ccagccattg
61  gcagagtcgc caggctaggg ctgtcaatca tgctggcccg cgtggccccg cctccgcccg
121 cgcggccccg cctccgcccg cgcacgtctg ggacgcaagg cgccgtgggg gctgccggga
181 cgggtccaag atggacggcc gctcaggttc tgcttttacc tgcgggccag agccccattc
241 attgccccgg tgctgagcgg cgccgcgagt cgccccgagg cctccgggga ctgccgtgcc
301 gggcgggaga ccgccatggc gaccctggaa aagetgatga aggccttcga gtccctcaag
361 tccttccagc agcagcagca gcagcagcag cagcagcagc agcagcagca gcagcagcag
421 cagcagcagc aacagccgcc accgccgccg ccgccgccgc cgctcctcga gcttctcag
481 ccgccgccgc aggcacagcc gctgctgcct cagccgcagc cgccccgccg gccgcccccg
541 ccgccaccgc gcccggtgtg ggctgaggag ccgctgcacc gaccaaagaa agaacttca
601 gctaccaaga aagaccgtgt gaatcatgtt ctgacaatat gtgaaaacat agtggcacag
661 tctgtcagaa attctccaga atttcagaaa cttctgggca tcgctatgga acttttctg
721 ctgtgcagtg atgacgcaga gtcagatgtc aggatgggtg ctgacgaatg cctcaacaaa
781 gttatcaaa gctttgatgga ttctaattct ccaaggttac agctcgagct ctataaggaa

```

```
841 attaaaaaga atggtgcccc tcggagtttg cgtgctgccc tgtggaggtt tgctgagctg
901 gctcacctgg ttcggcctca gaaatgcagg ccttacctgg tgaaccttct gccgtgcctg
961 actcgaacaa gcaagagacc cgaagaatca gtccaggaga ccttggctgc agctgttccc
1021 aaaattatgg cttcttttgg caattttgca aatgacaatg aaattaaggt tttgttaaag
1081 gccttcatag cgaacctgaa gtcaagctcc cccaccattc ggcggacagc ggctggatca
1141 gcagttagca tctgccagca ctcaagaagg acacaatatt tctatagttg gctactaaat
1201 gtgctcttag gcttactcgt tcctgtcgag gatgaacact ccactctgct gattcttggc
1261 gtgctgctca ccctgaggta tttggtgccc ttgctgcagc agcagggtcaa ggacacaagc
1321 ctgaaaggca gcttcggagt gacaaggaaa gaaatggaag tctctccttc tgcagagcag
1381 cttgtccagg tttatgaact gacgttacat catacacagc accaagacca caatgttgtg
1441 accggagccc tggagctgtt gcagcagctc ttcagaacgc ctccaccgga gcttctgcaa
1501 accctgaccg cagtcggggg cattgggcag ctaccgctg ctaaggagga gtctggtggc
1561 cgaagccgta gtgggagtat tgtggaactt atagctggag ggggttcctc atgcagccct
1621 gtcctttcaa gaaaacaaaa aggcaaagtg ctcttaggag aagaagaagc cttggaggat
1681 gactctgaat cgagatcgga tgtcagcagc tctgccttaa cagcctcagt gaaggatgag
1741 atcagtggag agctggtctg tcttcagggt gtttccactc cagggtcagc aggtcatgac
1801 atcatcacag aacagccacg gtcacagcac aactgcagg cggactcagt ggatctggcc
1861 agctgtgact tgacaagctc tgccactgat ggggatgagg aggatattct gagccacagc
1921 tccagccagg tcagcgccgt cccatctgac cctgccatgg acctgaatga tgggaccag
1981 gcctcgctgc ccatcagcga cagctcccag accaccaccg aagggcctga ttcagctgtt
2041 acccttccag acagttctga aattgtgtta gacggtaccg acaaccagta tttgggcctg
2101 cagattggac agccccagga tgaagatgag gaagccacag gtattcttcc tgtgaagcc
2161 tcggaggcct tcaggaactc ttccatggcc cttcaacagg cacatttatt gaaaaacatg
2221 agtcaactga ggcagccttc tgacagcagt gttgataaat ttgtgttgag agatgaagct
2281 actgaaccgg gtgatcaaga aaacaagcct tgccgcacat aagggtgacat tggacagtcc
2341 actgatgatg actctgcacc tcttgtccat tgtgtccgcc ttttatctgc ttcgtttttg
2401 ctaacagggg gaaaaaatgt gctggttccg gacagggatg tgagggtcag cgtgaaggcc
2461 ctggccctca gctgtgtggg agcagctgtg gccctccacc cggaatcttt cttcagcaaa
2521 ctctataaag ttctcttga caccacggaa taccctgagg aacagtatgt ctcagacatc
2581 ttgaactaca tcgatcatgg agaccacag gttcgaggag ccactgccat tctctgtggg
2641 accctcatct gctccatcct cagcaggtcc cgcttccacg tgggagattg gatgggcacc
2701 attagaaccc tcacaggaaa tacattttct ttggcggatt gcattccttt gctgcgaaa
2761 aactgaagg atgagtcttc tgttacttgc aagttagctt gtacagctgt gaggaactgt
2821 gtcatgagtc tctgcagcag cagctacagt gagttaggac tgcagctgat catcgatgtg
2881 ctgactctga ggaacagttc ctattggctg gtgaggacag agcttctgga aacccttgca
2941 gagattgact tcaggctggt gagctttttg gaggcaaaag cagaaaactt acacagaggg
3001 gctcatcatt atacagggtt tttaaaactg caagaacgag tgcataataa tgttgtcatc
3061 catttgcttg gagatgaaga cccagggtg cgacatgttg ccgcagcatc actaattagg
3121 cttgtcccaa agctgtttta taaatgtgac caaggacaag ctgatccagt agtggccgtg
3181 gcaagagatc aaagcagtgt ttacctgaaa ctctcatgc atgagacgca gccctcatct
3241 catttctccg tcagcacaat aaccagaata tatagaggct ataacctact accaagcata
3301 acagacgtca ctatgaaaaa taacctttca agagttattg cagcagtttc tcatgaacta
3361 atcacatcaa ccaccagagc actcacattt ggatgctgtg aagctttgtg tcttctttcc
3421 actgccttcc cagtttgcac ttggagttaa ggttggcact gtggagtgcc tccactgagt
3481 gcctcagatg agtctaggaa gagctgtacc gttgggatgg ccacaatgat tctgacctg
3541 ctctcgctag cttggttccc attggatctc tcagcccatc aagatgcttt gattttggcc
3601 ggaaacttgc ttgcagccag tgctcccaaa tctctgagaa gttcatgggc ctctgaagaa
3661 gaagccaacc cagcagccac caagcaagag gaggtctggc cagccctggg ggaccgggcc
3721 ctggtgcccc tgggtgagca gctcttctct cacctgctga aggtgattaa catttgtgcc
3781 cagtccttgg atgacgtggc tcctggaccc gcaataaagg cagccttgcc ttctctaaca
3841 aacccccctt ctctaagtcc catccgacga aagggaagg agaaagaacc aggagaacaa
3901 gcatctgtac cgttgagtcc caagaaaggc agtgaggcca gtgcagcttc tagacaatct
3961 gatacctcag gtctgttac aacaagtaaa tcctcatcac tggggagttt ctatcatctt
4021 ccttcatacc tcaaactgca tgatgtcctg aaagctacac acgctaacta caaggtcacg
4081 ctggatcttc agaacagcac ggaaaagtth ggagggttth tccgctcagc cttggatgtt
4141 ctttctcaga tactagagct ggccacactg caggacattg ggaagtgtgt tgaagagatc
4201 ctatgatacc tgaaatcctg ctttagctga gaaccaatga tggcaactgt tttgtttcaa
4261 caattgttga agactctctt tggcacaaac ttggcctccc agtttgatgg ctatcttcc
4321 aaccccgaca agtcacaagg ccgagcacag cgccttggct cctccagtgt gaggccaggc
4381 ttgtaccact actgcttcat ggccccgtac acccacttca cccaggccct cgctgacgcc
```

```
4441 agcctgagga acatggtgca ggcggagcag gagaacgaca cctcgggatg gtttgatgtc
4501 ctccagaaag tgtctaccca gttgaagaca aacctcacga gtgtcacaaa gaaccgtgca
4561 gataagaatg ctattcataa tcacattcgt ttgtttgaac ctcttgttat aaaagcttta
4621 aaacagtaca cgactacaac atgtgtgcag ttacagaagc aggttttaga tttgctggcg
4681 cagctggttc agttacgggt taattactgt cttctggatt cagatcaggt gtttattggc
4741 tttgtattga aacagtttga atacattgaa gtgggccagt tcagggaatc agaggcaatc
4801 attccaaaca tctttttctt cttggtatta ctatcttatg aacgctatca ttcaaaacag
4861 atcattggaa ttcttaaaat cattcagctc tgtgatggca tcatggccag tgggaaggag
4921 gctgtgacac atgccatacc ggctctgcag cccatagtcc acgacctctt tgtattaaga
4981 ggaacaaata aagctgatgc agggaaagag cttgaaaccc aaaaagaggt ggtggtgtca
5041 atgttactga gactcatcca gtaccatcag gtgttggaag tgttcattct tgtcctgcag
5101 cagtgccaca aggagaatga agacaagtgg aagcgactgt ctcgacagat agctgacatc
5161 atcctcccaa tgttagccaa acagcagatg cacattgact ctcatgaagc ccttgagtg
5221 ttaaatacat tatttgagat tttggccctt tcctccctcc gtccggtaga catgctttta
5281 cggagtatgt tcgtcactcc aaacacaatg gcgtccgtga gcactgttca actgtggata
5341 tcgggaattc tggccatttt gagggttctg atttcccagt caactgaaga tattgttctt
5401 tctcgtattc aggagctctc cttctctccg tatttaatct cctgtacagt aattaatagg
5461 ttaagagatg gggacagtac ttcaacgcta gaagaacaca gtgaaggga acaaataaag
5521 aatttgccag aagaaacatt ttcaaggttt ctattacaac tggttggtat tcttttagaa
5581 gacattgtta caaaacagct gaaggtggaa atgagtgagc agcaacatac tttctattgc
5641 caggaactag gcacactgct aatgtgtctg atccacatct tcaagtctgg aatgttccg
5701 agaatcacag cagctgccac taggtgttct cgcagtgatg gctgtggcgg cagtttctac
5761 accctggaca gcttgaactt gcgggctcgt tccatgatca ccaccaccc ggccctggtg
5821 ctgctctggt gtcagatact gctgcttgtc aaccacaccg actaccgctg gtgggcagaa
5881 gtgcagcaga ccccgaaaag acacagtctg tccagcacia agttacttag tcccagatg
5941 tctggagaag aggaggattc tgacttggca gccaaacttg gaatgtgcaa tagagaaata
6001 gtacgaagag gggctctcat tctcttctgt gattatgtct gtcagaacct ccatgactcc
6061 gagcacttaa cgtggctcat tgtaaatac attcaagatc tgatcagcct tcccacgag
6121 cctccagtac aggacttcat cagtgcctgt catcggaact ctgctgccag cggcctgttc
6181 atccaggcaa ttcagtctcg ttgtgaaaac ctttcaactc caaccatgct gaagaaaact
6241 cttcagtgct tggaggggat ccatctcagc cagtcgggag ctgtgctcac gctgtatgtg
6301 gacaggcttc tgtgcacccc tttcctgtgt ctggctcgca tggctgacat ccttgcttgt
6361 cgccgggtag aaatgcttct ggctgcaaat ttacagagca gcatggccca gttgccaatg
6421 gaagaactca acagaatcca ggaatacctt cagagcagcg ggctcgtca gagacaccaa
6481 aggtctctatt cctgctgga caggtttcgt ctctccacca tgcaagactc acttagtccc
6541 tctcctccag tctcttccca cccgctggac ggggatgggc acgtgtcact ggaacagtg
6601 agtcgggaca aagactggtg cgttcatctt gtcaaatacc agtggtggac caggtcagat
6661 tctgcactgc tgggaagggtc agagctggtg aatcggattc ctgctgaaga tatgaatgcc
6721 ttcattgatg actcggagtt caacctaaag ctgctagctc catgcttaag cctagggatg
6781 agtgaaattt ctggtggcca gaagagtgcc cttttgaag cagcccgta ggtgactctg
6841 gccctgtgta gcggcaccgt gcagcagctc cctgctgtcc atcatgtctt ccagcccgag
6901 ctgcctgcag agccggcggc ctactggagc aagttgaatg atctgtttgg ggatgctgca
6961 ctgtatcagt cctgcccac tctggcccgg gccctggcac agtacctggt ggtggtctcc
7021 aaactgcccc gtcatttgca ccttctctct gagaaagaga aggacattgt gaaattcgtg
7081 gtggcaaccc ttgaggccct gtcttggcat ttgatccatg agcagatccc gctgagtctg
7141 gatctccagg cagggttgga ctgctgctgc ctggccctgc agctgcctgg cctctggagc
7201 gtggtctcct ccacagagtt tgtgacccac gcctgctccc tcatctactg tgtgcacttc
7261 atcctggagg ccgttgagct gcagcctgga gagcagcttc ttagtccaga aagaaggaca
7321 aataccccaa aagccatcag cgaggaggag gaggaagtag atccaaacac acagaatcct
7381 aagtatatca ctgcagcctg tgagatggtg gcagaaatgg tggagtctct gcagtcggtg
7441 ttggccttgg gtcataaaaag gaatagcggc gtgccggcgt ttctcacgcc attgctcagg
7501 aacatcatca tcagcctggc ccgctgccc cttgtcaaca gctacacacg tgtgccccca
7561 ctggtgtgga agcttggatg gtcacccaaa ccgggagggg attttggcac agcattccct
7621 gagatccccg tggagtctct ccaggaaaag gaagtcttta aggagtctat ctaccgcate
7681 aacacactag gctggaccag tcgtactcag tttgaagaaa cttgggccac cctccttggt
7741 gtcttgggtg cgcagccctt cgtgatggag caggaggaga gccaccaga agaagacaca
7801 gagaggaccc agatcaacgt cctggcctgt caggccatca cctcactggt gctcagtga
7861 atgactgtgc ctgtggccgg caaccagctt gtaagctgct tggagcagca cccccgaac
7921 aagcctctga aagctctcga caccaggttt gggaggaagc tgagcattat cagagggatt
7981 gtggagcaag agattcaagc aatggtttca aagagagaga atattgccac ccatcattta
```

8041 tatcagggcat gggatcctgt cccttctctg tctccggcta ctacaggtgc cctcatcagc
8101 caccgagaagc tgctgctaca gatcaacccc gagcgggagc tggggagcat gagctacaaa
8161 ctcgggccagg tgtccataca ctccgtgtgg ctggggaaca gcatcacacc cctgagggag
8221 gaggaatggg acgaggaaga ggaggaggag gccgacgcc ctgcaccttc gtcaccaccc
8281 acgtctccag tcaactccag gaaacaccgg gctggagttg acatccactc ctgttcgcag
8341 tttttgcttg agttgtacag ccgctggatc ctgccgtcca gctcagccag gaggaccccg
8401 gccatcctga tcagttaggt ggtcagatcc cttctagtgg tctcagactt gttcacccag
8461 cgcaaccagt ttgagctgat gtatgtgacg ctgacagAAC tgcgaagggg gcacccttca
8521 gaagacgaga tcctcgctca gtacctgggt cctgccacct gcaaggcagc tgccgtcctt
8581 gggatggaca aggccgtggc ggagcctgtc agccgcctgc tggagagcac gctcaggagc
8641 agccacctgc ccagcagggt tggagccctg cacggcgtcc tctatgtgct ggagtgcgac
8701 ctgctggacg aactgccaa gcagctcatc ccggtcatca gcgactatct cctctccaac
8761 ctgaaagggg tgcgccactg cgtgaacatt cacagccagc agcacgtact ggtcatgtgt
8821 gccactgcgt tttacctcat tgagaactat cctctggacg tagggccgga attttcagca
8881 tcaataatac agatgtgtgg ggtgatgctg tctggaagtg aggagtccac cccctccatc
8941 atttaccact gtgccctcag aggcctggag cgctcctgc tctctgagca gctctcccgc
9001 ctggatgcag aatcgctggg caagctgagt gtggacagag tgaacgtgca cagcccgcac
9061 cgggccatgg cggctctggg cctgatgtct acctgcatgt acacaggaag ggagaaagtc
9121 agtccgggta gaacttcaga ccctaactct gcagcccccg acagcgagtc agtgattgtt
9181 gctatggagc gggatatctgt tctttttgat aggatcagga aaggctttcc ttgtgaagcc
9241 agagtgggtg ccaggatcct gccccagttt ctagacgact tcttcccacc ccaggacatc
9301 atgaacaaag tcatcggaga gtttctgtcc aaccagcagc cataccccca gttcatggcc
9361 accgtgggtg ataaggtgtt tcagactctg cacagcaccg ggcagtctgc catgggtccg
9421 gactgggtca tgctgtccct ctccaacttc acgcagaggg ccccggtcgc catggccacg
9481 tggagcctct cctgcttctt tgctcagcgc tccaccagcc cgtgggtcgc ggcgactctc
9541 ccacatgtca tcagcaggat gggcaagctg gagcagggtg acgtgaacct tttctgctg
9601 gtcgccacag acttctacag acaccagata gaggaggagc tcgaccgcag ggccttccag
9661 tctgtgcttg aggtggttgc agccccagga agcccatatc accggtgctg gacttgttta
9721 cgaaatgtcc acaaggtcac cacctgctga gcgccatggt gggagagact gtgaggcggc
9781 agctggggcc ggagcctttg gaagtctgtg cccttgtgcc ctgcctccac cgagccagct
9841 tgggccctat gggcttccgc acatgccgcg ggcggccagg caacgtgcgt gtctctgcca
9901 tgtggcagaa gtgctctttg tggcagtggc caggcagggg gtgtctgcag tcctgggtggg
9961 gctgagcctg aggccttcca gaaagcagga gcagctgtgc tgcaccccat gtgggtgacc
10021 aggtcctttc tcctgatagt cacctgctgg ttgttgccag gttgcagctg ctcttgcatc
10081 tgggccagaa gtccctccctc ctgcaggctg gctgttggcc cctctgctgt cctgcagtag
10141 aaggtgccgt gagcaggctt tgggaacact ggccctgggtc tccctgggtg ggtgtgcatg
10201 ccacgccccg tgtctggatg cacagatgcc atggcctgtg ctgggccagt ggctgggggt
10261 gctagacacc cggcaccatt ctcccttctc tcttttcttc tcaggattta aaatttaatt
10321 atatcagtaa agagattaat tttaacgt

//

[Disclaimer](#) | [Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)

Last update: Wed, 05 Nov 2008 Rev. 145015